

VOBECKY, M., MASTALKA, A.

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CSSR

Institute of Atomic Research, Czechoslovak Academy of Sciences, Rez nr. Prague  
Prague, Collection of Czechoslovak Chemical Communications, No 3, 1963,  
pp 709-715

"Radio-chemical Isolations, II. Chromatographic Isolation of Rare Earths"

(2)

FRANA, Jiri; REZANKA, Ivo; VOBECKY, Milos; MASTALKA, Antonin

Spectrum of lanthanum isotopes deficient in neutrons with the  
semiperiod of around 5 hours. Jaderna energie 10 no.8:292 Ag '64.

1. Institute of Nuclear Research, Czechoslovak Academy of  
Sciences, Rez.

CZECHOSLOVAKIA / Chemical Technology. Chemical Products and Their Applications. Industrial Organic Synthesis. H-15

Abs Jour: Ref Zhur-Khimiya, No 3, 1959, 9217.

Author : Vobecky, M.

Inst : Not given.

Title : Heat of Dilution and Mixing Acids Comprising Nitration Mixtures.

Orig Pub: Chem. promysl, 1956, 6, No 12, 486-499.

Abstract: A simplified method is suggested for calculating the thermal balance of reactions for nitration and sulfonation. An empirical equation is deduced for calculating the heat of sulfuric acid dilution with different contents of  $\text{SO}_3$ . An example is given for calculating the thermal balance of  $\text{C}_6\text{H}_5\text{NO}_2$  nitration by a mixture of 63%  $\text{H}_2\text{SO}_4$ , 35%  $\text{HNO}_3$  and 2% water. A number of graphs are included. -- E. Tukachinskaya.

105

CZECHOSLOVAKIA/Nuclear Physics - Installations and Instruments.  
Methods of Measurement and Research

C-2

Abs Jour : Ref Zhur - Fizika, No 8, 1958, No 17357

Author : Vobecky Miloslav, Dragoun Otakar  
Inst : Institute for Nuclear Physics, Prague, Czechoslovakia  
Title : Preparation of Thin Films

Orig Pub : Jaderna energie, 1957, 3, No 12, 409-412

Abstract : Methods are described for the preparation of thin films, used as windows for Geiger-Mueller counters and for substrates for sources of radioactive radiation. An investigation of different types of materials has shown that the most suitable for this purpose is chlorinated polyvinyl chloride, which has good chemical properties and also high endurance to heat. Films of thickness of approximately 2 mg/cm have been obtained.

Card : 1/1

5

V O B E C K Y, M .

CZECHOSLOVAKIA / Laboratory Equipment. Apparatuses. F

Abs Jour: Ref Zhur-Khimiya, 1958, No 20, 67385.

Author : Vobecky MjLoslav

Inst : ~~Not given.~~ CZECH. Akad. věd, PRAGUE

Title : Preparation of Luminescent Pure Anthracene.

Orig Pub: Chem. listy, 1957, 51, No 11, 2138-2139.

Abstract: A method for purification of anthracene (employed as luminescent material in the scintillating detectors) is described. It utilizes chromatographical apparatus. Anthracene dissolved in hexane is charged into a column filled with  $Al_2O_3$ . The effluent liquid that passed into the lower vessel is reduced in volume by heating and the vaporized

Card 1/2

VOBECNY, M.

"Preparation of pure luminescent anthracene." In German. p. 307.

COLLECTION OF CZECHOSLOVAK CHEMICAL COMMUNICATIONS, Praha, Czech.,  
Vol. 24, No. 1, Jan. 1959.

Monthly List of East European Accessions (EEAI), IC, Vol. 8, No. 6, Sept. 59

Unclassified

VOBECKY, M.

Szillard-Chalmers effect on holmium oxide. Coll Cz Chem 25 no.5:  
1506 My '60.

1. Abteilung für Kernspektroskopie, Institut für Kernforschung,  
Tschechoslowakische Akademie der Wissenschaften, Prag.

VOBECKY, Miloslav; KNOTEK, Oldrich

Determining gold in quartz by activation analysis.  
Chem listy 58 no.1:15-17 Ja'64.

1. Ustav jaderneho vyzkumu, Ceskoslovenska akademie ved,  
Rez.



BRABETS, V. [Brabec, V.]; KRATSIK, B.; KRATSIKOVA, T.; MILIGI, Z.;  
VEYS, M.; MASHTALKA, A.; VOBETSKY, M.; GNATOVITSZ, V.

Radioactive radiation from neutron-deficient hafnium isotopes.  
Izv.AN SSSR.Ser.fiz. 25 no.10:1266-1268 '61. (MIRA 14:10)

1. Institut yadernykh issledovaniy Chekhoslovatskoy Akademii nauk,  
Rzhezh, i Fakul'tet tekhnicheskoy i yadernoy fiziki ChVUT, Praga.  
(Hafnium--Isotopes)

38573

S/061/62/000/010/009/085  
B158/B144

5.2100

AUTHORS: Vobecký, M., Maštálka, A.

TITLE: Radiochemical methods of isolation. I. Isolation of hafnium and tungsten from tantalum cleavage products

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 10, 1962, 41, abstract 10E250 (Collect. Czechosl. Chem. Commun, v. 26, no. 6, 1961, 1716-1719)

TEXT: Tantalum foil was irradiated for ~4 hours with an internal beam of 660-Mev protons. The irradiated target was dissolved in 40 % HF with addition of 65 %  $\text{HNO}_3$ . The following carriers were added to the solution: 3-5 mg Zr, 3-5 mg W, and 1 mg La. The  $\text{LaF}_3$  precipitate was separated and reprecipitated twice from the solution. The solution was cooled in an ice bath and  $\text{BaZrF}_6$  precipitated. After 20-min cooling, the precipitate was centrifuged, washed with cold water, and dissolved in saturated  $\text{H}_3\text{BO}_3$ .  $\text{BaSO}_4$  was then precipitated and the precipitate separated.  $\text{Zr}(\text{OH})_4$  was

Card 1/2

Radiochemical methods of...

S/081/62/000/010/009/085  
B158/B144

precipitated in the filtrate, reprecipitated, dissolved in HCl, and the solution passed through an anion-exchange column in  $\text{Cl}^-$  form. The column was washed with 12 M HCl and the Hf washed off without the 8 N HCl carrier. After isolation of the  $\text{BuZrF}_6$ , Ta was separated from the solution by precipitating it as  $\text{KTaF}_6$ . The filtrate was evaporated three times with  $\text{HNO}_3$  and the  $\text{WO}_3 \cdot \text{H}_2\text{O}$  precipitate dissolved in 2 M  $\text{H}_3\text{PO}_4$ . Then the W was adsorbed on an anion-exchange column in  $\text{BO}_4^{3-}$  form. The column was washed first with 2 M  $\text{H}_3\text{PO}_2$  and then with water, and the W was washed off with a 10 % KOH solution. The purity of the Hf fraction was checked from spectra of the conversion electrons and of the  $\gamma$ -radiation.  $\text{Hf}^{171}$ ,  $\text{Hf}^{173}$ , and  $\text{Hf}^{175}$  were identified by this method.  $\text{W}^{178}$  was identified in the W fraction after  $T_{1/2} = 22.3$  days. [Abstracter's note: Complete translation.]

Card 2/2

FRANA J.; REZANKA, I.; VOBECKY, M.; MASTAIKA, A.

$\gamma$ -spectrum of neutron-deficient La isotopes of  $T_{1/2} \sim 5$  hours. Chekhosl fiz zhurnal 14 no.8:652-653 '64

1. Institute of Nuclear Research, Czechoslovak Academy of Sciences, Rez.

VOBECKY, M.

CZECHOSLOVAKIA

BENES, J; VOBECY, M

Institute of Nuclear Research, Czechoslovak Academy  
of Sciences, Rez near Prague - (for both)

Prague, Collection of Czechoslovak Chemical Communi-  
cations, No 11, November 1966, pp 4398-4404

"Precipitation and coprecipitation in the presence  
of EDTA. Part 1: Effect of the conditions on the  
precipitation of radioactive barium and strontium by  
the sulfate method."

CZECHOSLOVAKIA

VOBECKY, M; MASTALKA, A; MARECEK, J.

1. INSTITUTE OF Nuclear Research, Czechoslovak Academy of Sciences ,  
Rez near Prague - (for?): 2. Research Institute for Inorganic Chemistry  
Usti nad Labem - (for?)

Prague; Collection of Czechoslovak Chemical Communications  
No. 8, August 1966, pp 3309-3314

"Determination of lanthanides in uranium by activation analysis."

SOURCE: Salerno Giorgio, 1911, 1912, 1944, 1945, 1946, 1947, 1948, 1949, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 26

TOPIC TAGS: lanthanum, radioisotope, spectroscopy

Abstract: Spectra of gamma isotopes La 132 and La 133 were measured. They have an approximately identical half lives; they were obtained by splitting a Ta target with protons of 660 MeV. Measurements on a coincidence spectrometer showed about 30 transitions (with a maximum energy 3625 keV and  $T_{1/2} = 5.0 \pm 0.2$  Hours). Energies and intensities of transitions are listed. The article is an abstract of *Nucl. Phys.* 127, 1968.

[illegible]

Card 1/2

1 10 100 1000

ACCESSION NR: AP5018830

SUBMITTED: 00

ENCL: 00

SUB CODE: NP, OP

NR REF SOV: 000

OTHER: 000

JPRS

Card 2/2



VOBECKY, M.; MASTALKA, A.; VOJTECH, O.

Radiochemical isolations. Pts. 2-3. Coll Cz Chem 28 no.3:709-715, 743-745 Mr '63.

1. Institut fur Kernforschung, Tschechoslowakische Akademie der Wissenschaften, Rez bei Prag.

BRABETS, V.[Brabec, V.]; KRATSIK, B.[Kracik, B.]; KRATSIKOVA, T.  
[Kracikova, T.]; MASHTALKA, A.[Mastalka, A.]; VEYS, M.  
[Weis, M.]; VOBETSKI, M.[Vobecky, M.]; CHERNUKH, I.  
[Cernuch, J.]

Spectrum of conversion electrons from  $Hf^{172}$ . Izv. AN SSSR. Ser.  
fiz. 16 no.12:1486-1487 D '62. (MIRA 16:1)

1. Institut yadernykh issledovaniy Chexoslovatskoy akademii  
nauk, Rzhesh, i Fakul'tet tekhnicheskoy i yadernoy fiziki  
ChVUT [Ceske vysoke uceni technicke].

(Internal conversion(Nuclear physics))  
(Beta-ray spectrometer)  
(Hafnium—Isotopes)

VOBETSKY, M.; NEFEDOV, V.D.; SINOTOVA, Ye.N.

Thin-layer chromatography of certain heteroorganic compounds.

Zhur.ob.khim. 33 no.12:4023-4024 D '63.

(MIRA 17:3)

VOBETSKY, M.; NEFEDOV, V.D.; SINOTOVA, Ye.N.

Study of the chromatographic behavior of some organotellurium compounds in thin layers of aluminum oxide. Zhur. ob. khim. 3<sup>r</sup> no.9:1684-1687 S '65. (MIRA 18:10)

1. Leningradskiy gosudarstvennyy universitet.

NEFEDOV, V.D.; VOBETSKY, M.; SINOTOVA, Ye.N.; BORAK, Y.

Isomeric effects during the  $\beta$ -decay of  $\text{RaE}$  in the  $\alpha$ -,  $\beta$ -,  $\gamma$ -tolyl  
derivatives of bismuth. Radiokhimiya 7 no.5:627-6.8 '65.

(MIRA 18:10)

NEFEDOV, V.D.; VOBENISKY, M.; BORAK, Y.

Synthesis of  $\alpha$ -xylyl derivatives of polonium as products of the  
-decay of RnE in the analogous derivatives of bismuth.

Radiokhimiia 7 no.5:628-629 '65.

(MIRA 18:10)

SINOTOVA, Ye.N.; VOBETSKIY, M.F.; LOGINOV, Yu.N.; YEVTIKHEYEV, L.N.

Exchange of phenyl groups in organomercury and organomagnesium  
compounds. Radiokhimiia 1 no.6:687-690 '59.  
(MIRA 13:4)

(Mercury organic compounds) (Magnesium organic compounds)  
(Carbon--Isotopes)

VOBLIKOV, Dmitriy Rodionovich; LUTSKAYA, N.S., otv.red.; PANAS'YANTS,  
M.D., red.izd-va; KRASNAYA, A.K., tekhn.red.

[Ethiopia; historical and economic study] Etiopiia; istoriko-  
ekonomicheskii ocherk. Moskva, Izd-vo vostochnoi lit-ry, 1959.  
86 p. (MIRA 13:1)

(Ethiopia--History) (Ethiopia--Economic conditions)



VOBLIKOV, L. [Voblikau, L.], master sporta

Towards her dreams. Rab. 1 sial. 35 no.12:5-6 D '59 (MIRA 13:3)  
(Minsk--Worsted) (Women as athletes)

VOBLIKOV, S.G.; DOBRYNIN, A.S.

Training scientific specialists in the R.S.F.S.R. Biol.tekh.-ekon.  
inform.Gos.nauch.-issl.inst.nauch.i tekhn.inform. 18 no.5:55-57 My  
'65. (MIRA 18:6)

VOBLIKOV, V. F.

15.8150  
11.9700  
11.2230

133382

S/190/62/004/002/013/021  
B110/B101

AUTHORS: Petrov, K. A., Nifant'yev, E. Ye., Khorkhoyanu, L. V.,  
Merkulova, M. I., Voblikov, V. F.

TITLE: Phosphorus-containing polymers. III. Application of the  
Arbuzov reaction for polymerizing ethylene alkyl phosphites

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 2, 1962, 246-249

TEXT: The method by A. Ye. Arbuzov et al. (Izv. AN SSSR, Otd. khim. n., 1950, 357) can be used for producing polyphosphonates from cyclic phosphinites. In the present study, polyphosphonates were similarly synthesized on the basis of ethylene alkyl phosphites (I). Alcohol was added dropwise to 126.5 g of ethylene chlorophosphite, 300 ml of ether, and 152 g of triethylamine; the mixture was left standing, filtered off, heated for 30 min, and (I) was obtained by double distillation. Cyclic phosphites contain an alkoxy group besides the cyclic ester group. Polyphosphonates are formed under catalytic action of methyl iodide on ethylene alkyl phosphite during 3 hr heating at 130°C in Ar atmosphere.

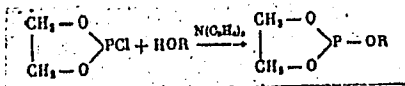
Card (1/3)



Phosphorus-containing polymer...

33392  
S/190/62/004/002/013/021  
B110/B101

the reaction temperature, and the  $\text{CH}_3\text{I}$  concentration; (3) ~160 - 200°C, depending on the molecular weight (hexyl and isooctyl compounds; 160 - 170°C; nonyl and decyl compounds; 200°C). The polymers are viscous, colorless, and odorless liquids soluble in organic. Some of them are highly thermostable (polydecyl ethylene phosphite endures <200°C for 20 - 30 hr). Utilization as plasticizer or admixture to lubricants is possible.



was also synthesized. There are 2 tables and 5 references; 4 Soviet and 1 non-Soviet. The reference to the English-language publication reads as follows: A. K. Sherrill, J. Amer. Chem. Soc., 52, 1985, 1930.

SUBMITTED: February 9, 1961

Card 3/3

S/190/63/005/003/009/024  
B101/B166

**AUTHORS:** Petrov, K. A., Nifant'yev, E. Ye., Khorkhoyanu, L. V.,  
Voblikov, V. F.

**TITLE:** Phosphorylated polysaccharides. II. Phosphorylation of  
cellulose by alcoholysis of amides of the acids of three-  
valent phosphorus

**PERIODICAL:** Vysokomolekulyarnyye soyedineniya, v. 5, no. 3, 1963, 348-352

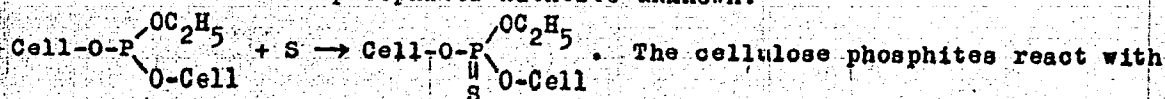
**TEXT:** In a previous paper (Zh. obshch. khimii, 31, 2377, 1961) the authors described the reaction:  $\text{Cell-OH} + \text{R}_2\text{N}-\text{P} \rightarrow \text{Cell-O-P} + \text{R}_2\text{NH}$ . In the present paper a study was made of this new method of phosphorylating cellulose by alcoholysis of phosphorous acid amides such a diethyl phosphorus acid diethylamide, ethylphosphorous acid tetraethylamide and phosphorous acid hexaethyltriarnide in order to develop fireproof, antiseptic and insecticidal cellulose. Since the process of esterification of cellulose depends to a great extent on how the sample is prepared the following cellulose types were subjected to phosphorylation: viscose fiber, washed with methanol and dried; specially prepared cotton cellulose; cellulose

Card 1/3

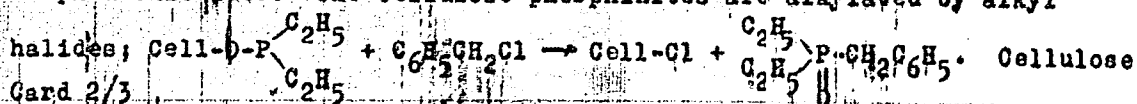
Phosphorylated polysaccharides...

S/190/63/005/003/009/024  
B101/B186

reprecipitated from triethylbenzylammonium hydroxide; and pyridine-enclosed cellulose. The degree of phosphorylation increased with increasing temperature (80 - 120°C). Celluloses with a phosphorus content up to 17.4%,  $\gamma = 30^\circ$  were obtained. These optimum values were obtained with pyridine cellulose reprecipitated from triethylbenzylammonium hydroxide. With di- and triamides, insoluble compounds arose containing about 3 - 3.5% nitrogen so that cross linking is assumed. With monoamides, cellulose phosphinites were formed, soluble in methanol. The phosphinites with 5 - 7% P were extinguished again when the flame was removed, the esters with a still higher P content did not burn but only carbonized. The cellulose esters of the trivalent phosphorus acids are highly reactive. With dry oxygen quantitative oxidation to phosphates sets in. Sulfur adds with formation of the cellulose thiophosphates hitherto unknown:



sulphenechlorides. The cellulose-phosphinites are alkylated by alkyl



Card 2/3

Phosphorylated polysaccharides...

S/190/63/005/003/009/024  
B101/B106

halides arise which can be used as the initial substances for the synthesis of desoxy-, cyano-, amino-, and other cellulose derivatives. There are 3 tables.

SUBMITTED: August 8, 1961

Card 3/3



S/190/63/005/003/009/024  
B101/B186

AUTHORS: Petrov, K. A., Nifant'yev, E. Ye., Khorkhoyanu, L. V.,  
Voblikov, V. F.

TITLE: Phosphorylated polysaccharides. II. Phosphorylation of  
cellulose by alcoholysis of amides of the acids of three-  
valent phosphorus

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 5, no. 3, 1963, 348-352

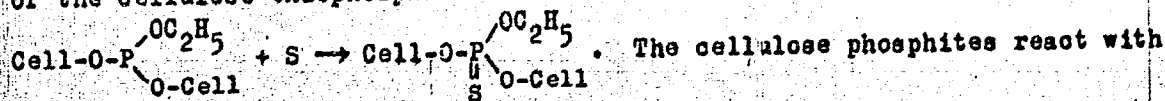
TEXT: In a previous paper (Zh. obshch. khimii, 31, 2377, 1961) the authors  
described the reaction:  $\text{Cell-OH} + \text{R}_2\text{N} - \text{P} < \rightarrow \text{Cell-O-P} < + \text{R}_2\text{NH}$ . In the  
present paper a study was made of this new method of phosphorylating  
cellulose by alcoholysis of phosphorous acid amides such as diethyl phos-  
phorus acid diethylamide, ethylphosphorous acid tetraethylamide and phos-  
phorous acid hexaethyltriamide in order to develop fireproof, antiseptic  
and insecticidal cellulose. Since the process of esterification of cellu-  
lose depends to a great extent on how the sample is prepared the following  
cellulose types were subjected to phosphorylation: viscose fiber, washed  
with methanol and dried; specially prepared cotton cellulose; cellulose

Card 1/3

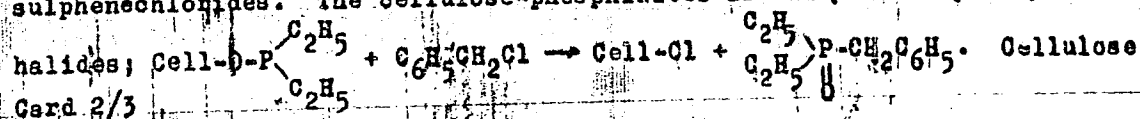
S/190/63/005/003/009/024  
B101/B186

Phosphorylated polysaccharides...

reprecipitated from triethylbenzylammonium hydroxide; and pyridine-enclosed cellulose. The degree of phosphorylation increased with increasing temperature (80 - 120°C). Celluloses with a phosphorus content up to 17.4%,  $\eta = 300$  were obtained. These optimum values were obtained with pyridine cellulose reprecipitated from triethylbenzylammonium hydroxide. With di- and triamides, insoluble compounds arose containing about 3 - 3.5% nitrogen so that cross linking is assumed. With monoamides, cellulose phosphinites were formed, soluble in methanol. The phosphinites with 5 - 7% P were extinguished again when the flame was removed, the esters with a still higher P content did not burn but only carbonized. The cellulose esters of the trivalent phosphorus acids are highly reactive. With dry oxygen quantitative oxidation to phosphates sets in. Sulfur adds with formation of the cellulose thiophosphates hitherto unknown:



sulphenechlorides. The cellulose-phosphinites are alkylated by alkyl



Card 2/3

Phosphorylated polysaccharides...

S/190/63/005/003/009/024  
B101/B186

halides arise which can be used as the initial substances for the synthesis of desoxy-, cyano-, amino-, and other cellulose derivatives. There are 3 tables.

SUBMITTED: August 8, 1961

Card 3/3

PETROV, K.A.; NIFANT'YEV, E.Ye.; KHORKHOYANU, L.V.; VOBLIKOV, V.F.

Phosphorylated polysaccharides. Part 2: Phosphorylation of cellulose  
by alcoholysis of the amides of trivalent phosphorous acids. Vysokom.  
soed. 5 no.3:348-352 Mr '63. (MIRA 16:3)  
(Cellulose) (Phosphorylation) (Phosphorus acids)

PROTOD'YAKONOV, M.M., prof. doktor tekhn. nauk; VOBLIKOV, V.S., kand.  
tekhn.nauk; IL'NITSKAYA, Ye.I., kand. tekhn.nauk; KANEVA, I.M., red.

[Methods of determining rock strength using irregularly  
shaped samples] Metodika opredeleniia prochnosti gor-  
nykh porod na obraztsakh nepravil'noi formy. Moskva,  
In-t gornogo dela, 1961. 7 p. (MIRA 17:3)

1. Institut gornogo dela im. A.A.Skochinskogo (for Voblikov,  
Protod'yakonov).

PROTOD'YAKONOV, M.M.; VOBLIKOV, V.S.

Coal and rock breakdown hypothesis as a result of compression stress.  
Trudy Inst.gor.dela no.2:75-89 '55. (MIRA 9:3)  
(Mining engineering)

VOBLIKOV, V. S.

VOBLIKOV, V. S. --"Investigation of the Process of Damage to Anthracite in a Volumetrically Stressed Condition." \* (Dissertations for Degrees in Science and Engineering Defended at USSR, Higher Educational Institutions) Acad Sci USSR, Inst of Mining Affairs, Moscow, 1955

SO: Knizhnaya Letopis', No. 25, 18 Jun 55

\* For Degree of Candidate in Technical Sciences

VOBLIKOV, V.S.

PROTOD'YAKONOV, M.M., doktor tekhnicheskikh nauk; VOBLIKOV, V.S.,  
kandidat tekhnicheskikh nauk.

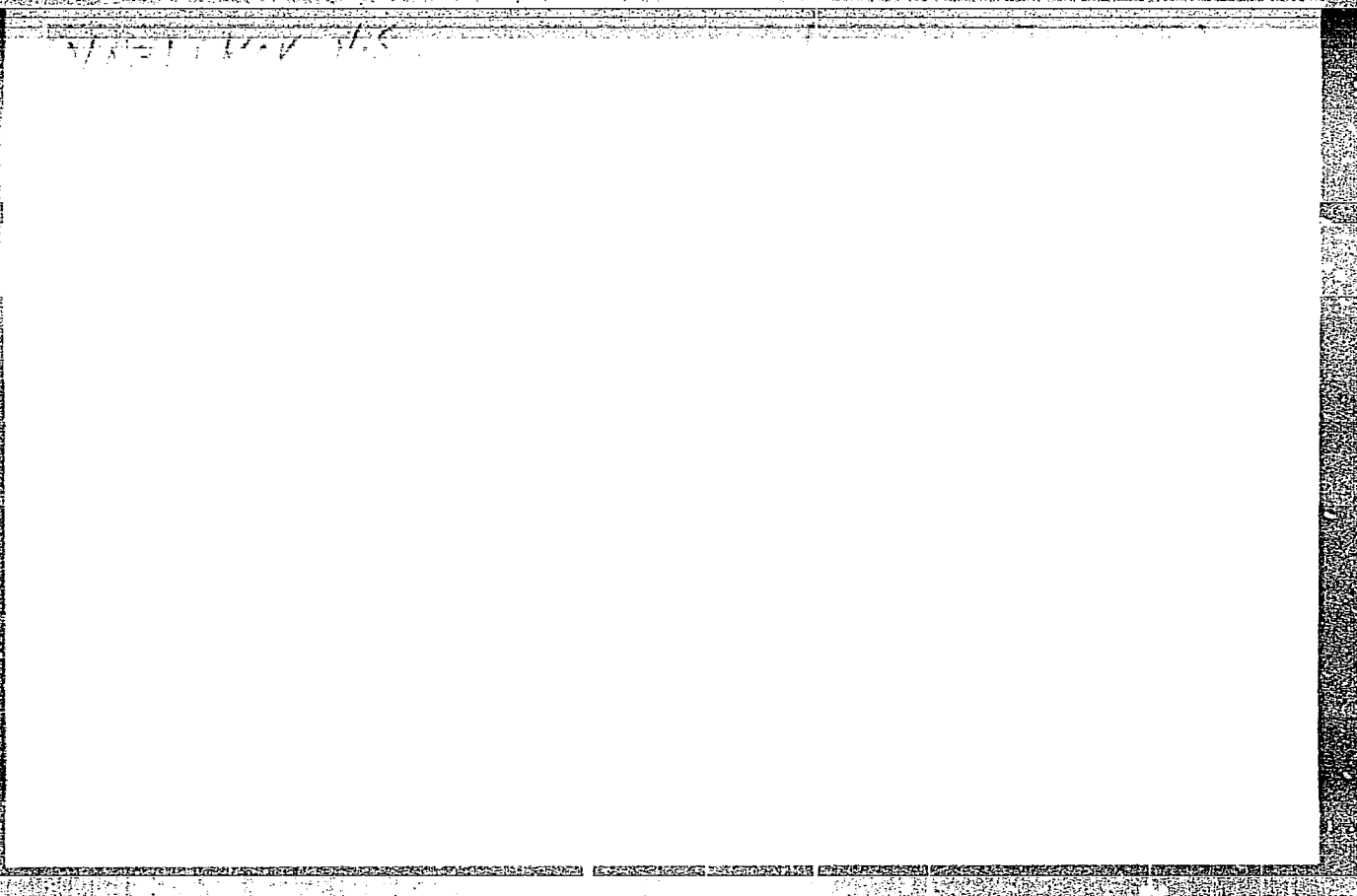
Determining rock hardness on samples of irregular shape. Ugol'  
32 no.4:13-17 Ap '57. (MLRA 10:5)

1. Institut gornogo dela Akademii nauk SSSR.  
(Rocks--Testing)



**"APPROVED FOR RELEASE: 09/01/2001**

**CIA-RDP86-00513R001860320014-6**



**APPROVED FOR RELEASE: 09/01/2001**

**CIA-RDP86-00513R001860320014-6"**

VOBLIKOV, V.S., kand.tekhn.nauk; KUDRYA, N.A., inzh.; KARPOV, V.I., inzh.

Apparatus for measuring linear deformation of rocks in uniaxial  
compressibility tests. Nauch.soob.Inst.gor.dela 7:111-113 '61.  
(MIRA 15:1)

(Rocks---Testing)

VOBLIKOVA, N.V., veterinarnyy vrach

Chlorophos for the first-stage larvae of the nose botfly  
in northern reindeer. Veterinariia 37 no.4:79-80 Ap'60.

(MIRA 16:6)

1. Nauchno issledovatel'skogo instituta sel'skogo khozyay-  
stva Kraynego Severa.  
(BOTFLIES)

VOBLIKOVA, N.V.

Phosphamide in the control of botflies of the family Cestridae in reindeer.  
Veterinariia 39 no.7:56-58 J1 '62. (MIRA 18:1)

1. Nauchno-issledovatel'skiy institut sel'skogo khozyaystva Kraynego  
Severa.

VOBLEKOVA, N.V.

Discovery of adult pentastomids parasitic in reindeer. Zool.  
zhur. 40 no. 1:129-130 Ja '61. (MIRA 14:2)

1. Research Institute of Agriculture of the Far North, Korylsk.  
(Russian, Northern--Pentastomida) (Parasites--Reindeer)

VOBLIKOVA, N. V. (Scientific Research Institute of Agriculture in the Far North)

"Phosphamide for the control of the throat botfly (*Gastrophilus nasalis*) of reindeer"

Veterinariya, vol. 39, no. 7, July 1962 pp. 56

SAVEL'YEV, D. V., VOBLIKOVA, N. V., MEZENEV, N. P. and SILKOV, A. M. (Scientific Research Institute of Agriculture in the Extreme North [Krainii Sever]).

"Phosphoro-organic insecticides in the extermination of larvae of the subcutaneous gadfly of reindeer."

Veterinariya, vol. 39, no. 2, February 1962 pp. 74

VOBLIKOVA, N. V. VOBLIKOVA, N. V. Vet-Dr.

"Chlorophos for liquidation of nose gadfly larvae of the I stage in reindeer."

Veterinariya, Vol. 37, No. 4, 1960, p. 79

Sci. Res. Inst. Agric. - Far North



Activity of peroxidase in mountain plants of Western Tyan-Shan. T. V. Voblikova. Doklady Akad. Nauk S.S.S.R. 68, 55, 1979. The activity of peroxidase by the guaiacol method (Bakh and Zuhkova, Sbornik Rabot po Khim. i Priklad. Khim., 1923) gave the following results expressed as  $K = (2.3/\log a/a-x)$ : Ranunculaceae family 3.80 to 14.9, Leguminosae family 1.00 to 1.60, Compositae family 1.44 to 2.00, Malvaceae family 10.3 to 23.8, Fumariaceae family 1.34; Labiate family 3.15 (at 10°). The temp. coeffs. and activation energies were, resp.: 1.72 and 0.000, 1.32 and 0.000, 1.5 and 0.000, 2.31 and 0.300, 2.49 and 15.000, and 2.28 and 11.000. Plants were examd. during the flowering stage. Neither peroxidase nor oxidase were found in: *Trifolium albatense*, *Thalictrum ussuriense*, *Clematis orientalis*, *Hedysarum semenovii*, *H. fedtschenkovianum*, *Onobrychis echidna*, *Artemisia dracunculoides*, *Waldsteinia tomentosa*, *H. korolkowii*, *Mentha piperita*. G. M. Korolapill

VOBLIKOVA, T.V.

Photosynthesis and respiration of plants grown under artificial light. Trudy Inst. fiziol. rast. 8 no.1:184-209 '53.

(MLRA 6:12)

1. Fiziko-agronomicheskiy institut Vsesoyuznogo nauchno-issledovatel'skogo instituta mekhanizatsii i elektrofikatsii sel'skogo khozyaystva, Laboratoriya svetofiziologii.

(Plants, Effect of light on) (Photosynthesis)

(Plants--Respiration)

VOBLIKOVA, T.V.

Effect of neon light on the respiration of seeds. Trudy Inst.  
fiziol. rast. 8 no.1:210-218 '53. (MLRA 6:12)

1. Fiziko-agronomicheskiy institut Vsesoyuznogo nauchno-issle-  
dovatel'skogo instituta mekhanizatsii i elektrofikatsii sel'-  
skogo khozyaystva, Laboratoriya svetofiziologii.

(Plants, Effect of light on)

VOBLIKOVA, T. V.

USSR/Biology - Plant Physiology

Card : 1/1

Authors : Voblikova, T. V.

Title : Effect of phosphorus smoke on plants

Periodical : Dokl. AN SSSR, 96, Ed. 4, 833 - 835, June 1954

Abstract : The use of red phosphorus as a smoke screen in protecting citrus plants against temporary frosts, is discussed. Three references. Tables.

Institution : Acad. of Sc. USSR, The K. A. Timiryazev Inst. of Plant Physiology

Presented by: Academician A. L. Kursanov, April 1, 1954

Voblikova, T. V.

✓ Effect of phosphoric acid fog in fertility of tomatoes, cucumbers, and beets. T. V. Voblikova. *Doklady Akad. Nauk S.S.S.R.* 107, 899-901 (1956). Fog produced by open-

air combustion of P at 0.1 g. per 1 sq. m. of area increased tomato crop by 27-32% after 8 such applications made in early growth period. The beet crop is improved similarly by 43% and cucumbers 22%. G. M. Kosolapoff

VOBLIKOVA, T.V.

Frost hardiness of winter wheat as related to the duration of growth  
at low temperatures above freezing point. Fiziol. rast. 10 no.3:  
371-374 My-Je '63. (MIRA 16:6)

1. K.A.Timiriachev Institute of Plant Physiology, U.S.S.R. Academy  
of Sciences, Moscow.

(Plants--Frost resistance) (Wheat)  
(Plants, Effect of temperature on)

VOBLIKOVA, T.V.

Frost resistance of winter wheat. Fiziol.rast. 12 no.1:76-84  
Ja-F '65. (MIRA 18:3)

1. Institut fiziologii rasteniy imeni Timiryazeva AN SSSR, Moskva.

VOBLIKOVA, T.V.

Frost resistance of winter wheat depending on cultivation and  
freezing conditions. Fiziol. rast. 12 no.3:525-531 My-Je '65.  
(MIRA 18:10)

1. Institut fiziologii rasteniy imeni K.A. Timiryazeva AN SSSR,  
Moskva.



VOBLIY, K.[Voblyi, K.], red.; GUSLISTIY, K.[Huslysty, K.], red.;  
DUBINA, K.[Dubyna, K.], red.

[Kiev; articles and information]Kyiv; statti-dovidky. Kyiv,  
Ukrains'ke vyd-vo polit. lit-ry, 1948. 140 p. (MIRA 16:1)  
(Kiev—Guidebooks)

ACC NR: AR6035200

SOURCE CODE: UR/0124/66/000/009/V012/V012

AUTHOR: Voblykh, V. A.

TITLE: Calculation of initial deviations in solving the problem of equilibrium stability of cylindrical shells using the general theory of noncylindrical shells

SOURCE: Ref. zh. Mekhanika, Abs. 9V99

REF SOURCE: Sb. Soprotivl. materialov i teoriya sooruzh. Vyp. 2. Kiyev, Budivel'nyk, 1965, 21-35

TOPIC TAGS: cylindric shell structure, shell structure stability, cylindric shell stability, shell stability

ABSTRACT: The stability of thin, elastic, circular, cylindrical shells of imperfect shape is investigated. The initial imperfections of the shape of the middle surface of the shell are described by assuming a certain initial deflection. The stability equations of these shells are written taking into account the additional curvatures caused by the presence of the initial deflection. The influence of the shape of the initial deflection on the reduction of critical load is investigated. Two extreme cases of the shape of initial deflection are considered:

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ACC NR: AR6035200

$$w_1^0 = f_1^0 \cos \lambda_0 \alpha \quad \text{and} \quad w_2^0 = f_2^0 \cos \psi_0 \beta$$

where  $\alpha$  is the dimensionless coordinate along the shell's generatrix,  $\beta$  is the coordinate along the directrix. On the basis of a comparative analysis, the author concludes that if  $f_1^0 = f_2^0$  the second form of the initial deflection results in a greater reduction of the critical compression load than in the case of the first form. Comment of the reviewer. 1) In writing stability equations the author fails to take into account the increments of deflection and the total stresses occurring after the application of load during the precritical state of the shell. In other words, if one designates by  $w^0$  the value of the initial shell deflection, which occurs before the application of the load and which characterizes the initial imperfection of the middle surface, and by  $N_1^0, N_2^0, S^0$  — the total stresses corresponding to the membrane state of an ideally smooth shell, then, after the load is applied during the precritical state, deflection  $w^0 + w'$ , and total stresses  $N_1^0 + N_1', N_2^0 + N_2', S^0 + S'$  will occur, and the stability equations should be written in consideration of the additional curvatures caused by the sum of deflections  $w^0 + w'$ , and also taking into account the sum of total stresses of the precritical state  $N_1^0 + N_1', N_2^0 + N_2', S^0 + S'$ . In the reviewed article, the author, when writing the stability equations, has ignored increments

Card 2/3

ACC NR: AR6035200

$w', N'_1, N'_2, S'$  . 2) This circumstance leads the author to the erroneous conclusion that the second form of the initial deflection results in a greater reduction of the critical load. Yu. V. Lipovtsev. [Translation of abstract and comment] [DW]

SUB CODE: 20/

Card 3/3

L 40791-66 EWT(d)/EWT(m)/EWP(w)/EWP(v)/EWP(k) IJP(c) FM/WW

ACC NR: AP6018601

SOURCE CODE: UR/0420/66/000/004/0029/0038

AUTHOR: Vinokurov, L. P.; Voblykh, V. A.

ORG: Kharkov Civil Engineering Institute (Khar'kovskiy inzhenerno-storitel'nyy institut)

TITLE: Stability of closed circular cylindrical shells under axial compression with internal overpressure <sup>2.4</sup>

SOURCE: Samoletostroyeniye i tekhnika vozdušnogo flota, no. 4, 1966, 29-38

TOPIC TAGS: shell structure stability, compressive stress, cylindric shell structure, critical pressure

The authors consider the stability of closed circular cylindrical shells subjected to axial compression with regard to the effect of deviations from the ideal shape on shell stability. A general solution for the problem is given assuming excessive internal pressure. Particular solutions are given for various special cases of deviations from the ideal shape. It is shown that the linear theory of gently tapered shells may be used to account for deviations from the ideal cylindrical shape, giving results which agree satisfactorily with experimental data. A closed shell with internal pressure subjected to axial compression shows a lower critical force than that given by the theoretical formula for an ideal shell. This is due to axisymmetric and nonaxisymmet-

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L 40791-66

ACC NR: AP6018601

ric deviations of the middle surface from the ideal cylindrical shape. When the internal pressure is high, nonaxisymmetric deviations from the ideal shape may cause an increase in the observed critical force in comparison with the theoretical value. The equations derived in this paper for the critical force under axial compression may be used for studying the effect which complex initial deviations have on shell stability by expansion in a trigonometric series. Orig. art. has: 3 figures, 15 formulas.

<sup>13</sup>  
SUB CODE: 20 ~~127~~ SUBM DATE: none/ ORIG REF: 005/ OTH REF: 002

Card 2/2 MLP

VOBOB'YEVA, M.

Vobob'yeva, M. "Our lambs", (The Krasnyy Manych Sheep-Raising Farm, Sal'skiy Rayon, Rostov Oblast), Ogonek, 1949, No. 20, p. 18-19.

SO: U-4392 19 August 53, (Letopis 'Zhurnal 'nykh Statey, No 21, 1949)

VOBLYI, Konstantin Grigor'evich

VOBLYI, Konstantin Grigor'evich. Problema vialikaha Dniapra. Mensk, Vyd-va Belaruskai akademii navuk, 1933. 37 p. (Belaruskaja akademiia navuk. Instytut ekonomiki).

Added t.p. in English

DLC: HC337.D55V6

SO: LC, Soviet Geography, Part II, 1951/Unclassified



VOBLYI, Konstantin Grigor'evich

VOBLYI, Konstantin Grigor'evich. Kyiv - sertse Ukrainy. Kyiv, Ukr. derzh.  
vyd-vo, 1944. 32 p.

DLC: DK651.K37V6

SO: LC, Soviet Geography, Part II, 1951/Unclassified

VOBLYI, V.M.

Velikii Severnyi put'; doklad. [The great Northern Sea Route; a lecture]. (Severnaia  
Azia, 1930, no. 1-2, p. 119-126). DLC: NS.S4 Slav.

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress,  
Reference Department, Washington, 1952, Unclassified.

VOBLYI, V.M.

Velikii Severnyi put'. [The great Northern Sea Route]. (Sovetskii sever, 1931,  
no. 3-4, p. 235-59, maps). DLC: HC331.S55

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress,  
Reference Department, Washington, 1952, Unclassified.

1985-65 10/198/65/001/003/0017/0026  
 10/198/65/001/003/0017/0026

AUTHOR: Voblykh, V. A. (Khar'kov)

TITLE: Effect of initial deflections on the magnitude of critical load for circular cylindrical shells

Source: Izvestiya mekhaniki, vol. 1, no. 1, 1965, 10-26

TOPIC: Effect of initial deflections on the magnitude of critical load, Galerkin method, cylindrical shell stability, shell theory

ABSTRACT: The equilibrium stability of thin closed cylindrical shells under initial deflections is investigated analytically. The shell has an initial deflection of the form  $w_0 = \sum_{n=1}^{\infty} A_n \sin n\theta$ . The problem of initial deflection is expressed in terms of the initial stress state. The governing differential equations are written in the framework of Muskhelishvili's theory of shells. The problem is solved in the general case for  $n=1$  and  $n=2$ .

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ACCESSION NR: AF5011586

and the shape of the mean shell surface after loss of stability is expressed in terms of linear shell theory equations or,

$$w = \sum_{m=0}^{\infty} \sum_{n=0}^{\infty} B_{mn} \cos \frac{m\pi R}{L} \alpha \cdot \cos n\beta.$$

A special solution is obtained using the Galerkin-Bukhlov method for the case of

given approximately by the series

$$w = \left( B_{00} \cos \frac{m\pi R}{2L} + B_{10} \cos \frac{3m\pi R}{2L} + \dots \right) \cos n\beta,$$

from which  $\bar{w}$  versus  $\zeta_0 = f_0/h$  curves are constructed for each  $\lambda_0$ . It is shown that for each  $\bar{w}$  there is a deflection with magnitude  $\bar{\lambda}_0$  at which the loss of stability takes place at the lowest value of  $\zeta_0$ . The limiting value for  $\zeta$

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ACCESSION NR: AP5011586

is obtained from 
$$\bar{c}_{\max} = \frac{2\sqrt{3}}{3\bar{\lambda}_0 \sqrt{12(1-\mu^2)}}$$

where

$$\bar{\lambda}_0 = \frac{\lambda_0}{\sqrt{\frac{R}{h} \sqrt{12(1-\mu^2)}}}$$

A second type of deflection is defined  $w_0 = -f_0 \cos n_0 \beta$ ,

and the following equation is obtained for  $\bar{N}$

$$\bar{N} = 1 - \bar{c}_0 \sqrt{3(1-\mu^2)} \frac{\bar{\lambda}_m^2 \bar{n}_0^2}{\left[ \bar{\lambda}_m^2 + \left( \frac{n_0}{2} \right)^2 \right]^{\frac{3}{2}}} + \left( \frac{3(1-\mu^2)}{2} \right) \frac{\bar{n}_0^2}{\bar{\lambda}_m^2} \times$$

$$\times \left( \frac{1}{\left[ \bar{\lambda}_m^2 + \left( \frac{n_0}{2} \right)^2 \right]^{\frac{3}{2}}} + \frac{1}{\left[ \bar{\lambda}_m^2 + \left( \frac{3n_0}{2} \right)^2 \right]^{\frac{3}{2}}} \right).$$

Numerical calculations show that as in the axisymmetric case the above initial deflection lowers the magnitude of the critical force as compared to the case

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ACCESSION NR: AP5011586

of an ideal shell. Orig. art. has: 21 equations, 4 figures, and 1 table.

ASSOCIATION: Khar'kovskiy inzhenerno-stroitel'nyy institut (Kharkov Engineering Construction Institute)

SUBMITTED: 31Mar64

ENCL: 00

SUB CODE: AS

NO REF SOV: 013

OTHER: 000

*Ref*  
Card 4/4

VOBLYY, K.G. [Voblyi, K.H.]

[Organization of the Ukrainian sugar industry and means for  
its further development] Vidbudova tsukrovoi promyslovosti  
URSР i shliakh ii dalshogo rozvytku. Kyiv, Ukrainske vyd-vo  
polit. lit-ry, 1946. 52 p. (MIRA 12:1)  
(Ukraine--Sugar industry)



CZECHOSLOVAKIA / Analytical Chemistry. Analysis of Inorganic Substances. E-23

Abs Jour: Ref Zhur-Khimiya, No 1, 1959, 985.

Author : Kral, S., Vobora, J.

Inst : Not given.

Title : The Analysis of Calcium Tungstate.

Orig Pub: Hutnicke listy, 1958, 13, No 5, 429-430.

Abstract: The methods for determining tungstic acid in the following compounds were described:  $\text{Hg}(\text{NO}_3)_2$ ,  $\text{CO}_2$ , Mo, Cr and V, P,  $\text{Fe}_2\text{O}_3$ ,  $\text{Al}_2\text{O}_3$ ,  $\text{TiO}_2$ , MnO, CaO, MgO,  $\text{SiO}_2$ ,  $\text{As}_2\text{O}_5$ , CuO,  $\text{SnO}_2$  and  $\text{SO}_3$  in scheelite and other minerals, containing  $\text{CaWO}_4$ . -- T. Levi.

Card 1/1

Vobora, J

Complexometric titrations (chelatorometry). XXVI.  
Screening of iron by triethylenediamine; the estimation of cal-  
cium with thymolphthalein complexon. Rudolf Pihl,  
Johi Korb, Paulin K. and Jiri Vobora, Czech Acad.  
Sci., Prague.

When a solution of the metal salt is treated with a known amount of the indicator I, a color change is observed. If the metal is present, then  $N(CH_2CH_2OH)_3$  (1:2), and  $N NaOH$  until the yellow-brown color has decolorized. Calcium is determined in the presence of iron by adding a known amount of  $Na_2CO_3 + K_2CO_3$  (1:1) until melted, add portionwise under stirring 5 g.  $Na_2O_2$ , melt, cool, ext. with 100 ml.  $H_2O$ , boil the ext. 5 min., make acid with  $HNO_3$ , boil 1 min., ppt. with  $(NH_4)_2C_2O_4$ , filter, wash, and dry. The filtrate and washings are made alkaline with 2N  $NaOH$  until decolorized, add indicator and titrate with 0.05M  $CaCl_2$  soln. to a blue color. The method is accurate to within  $\pm 0.15\%$ . The interfering influence of  $Mg$  is removed by adding a known amount of  $Mg$  to the sample. XXVII. Thymolphthalein: Visits a new chelator. The indicator thymolphthalein (I) forms a complex with a number of metal cations. It gives with a no. of metal cations in alk. solns. a conspicuous color change. The ions  $Co$ ,  $Ni$ ,  $Cu$ ,  $Cd$ , and  $Mn$  give with I in dil.  $NH_4OH$  at pH above 10.5 a red-violet color and are back-titrated visually with 0.05M  $dl-Na$  salt of I to a blue color. Addn. of  $NH_4OH.HCl$  is necessary in the case of  $Mn$  to prevent oxidation. It is used in mixts. with  $KNO_3$  (1:100), since aq. or alc. solns. are not stable. The high pH of the acid-base change makes the detn. of some cations, notably  $Hg$  and  $Pt$ , impossible.

L. J. Urbancik

SIRHAL, H., inz., dr., Csc.; VOBOHA, O.

Organization of the mining and the handling of raw materials in  
clay pits from the viewpoint of technical and economical indexes.  
Stavivo 41 no.6:208-211 Je '63.

1. Vyzkumny ustav stavebnich hmot, Brno.

VOBORA J.

Determination of Tin in Ferro-Titanium. O. Belohlávek  
and J. Vobora. (Hutnické Listy, 1955, 10, (4), 229-230). 176  
(In Czechoslovak).

DL 231 ①

VOBORA, J.

Belohlavek, O.; Vobora, J. Determining tin in ferromolybdenum p. 354.  
HUTNICKE LISTY. Brno. Vol. 10, no. 6, June 1955.

SO: Monthly List of the East European Accession, (EEAL), LC. Vol. 4,  
no. 10, Oct. 1955. Uncl.

Voborn, Jiri

LFH

KYSIL, B.; VOBORA, J.

Determination of boron in steels. Coll Cz chem 25 no.12:3893-3902  
'59. (EEAI 9:6)

1. Chemisches Laboratorium, Spohene ocalarny, Kladno.  
(Boron) (Steel)

CZECHOSLOVAKIA/Analytic Chemistry. Analysis of Inorganic Substances.

E

Abs Jour: Ref Zhur-Khim., No 23, 77218.

Author : Pripil Rudolf, Kórbí, Jiri; Kysil, Bohdan, Vobora, Jiri.

Inst :  
Title : Complexometric Titration (Chelatometry). XXXVI.  
To Sequestering of Iron by Triethanolamine. Calcium  
Determination Using Thymolphthalein Chelate as  
Indicator.

Orig Pub: Chem. Listy, 1958, 52, No 2, 243-246.

Abstract: A rapid method of complexometric determination of Ca in the presence of great amounts of  $Fe^{3+}$  after it has been sequestered by triethanolamine (I) is described. Should ethylenedinitrylotetraacetic

Card : 1/34



CZECHOSLOVAKIA/Analytic Chemistry. Analysis of Inorganic Substances.

E

Abs Jour: Ref Zhur-Khim., No 23, 77218.

acid (II) solution be previously added to an iron containing solution to be analyzed in the amount equivalent to about 1/3 of the content of iron, colorless solutions would be obtained after the addition of I and alkalization, which facilitate the precise titration of Ca even if the Fe concentrations were high. Thymolphthalein chelate (III) is a suitable indicator. For the determination of Ca, an excess (12 to 25 ml) of 0.05 M II solution and 5 ml of I solution (1 : 2) are added to 50 ml or less of weakly acid solution to be analyzed containing 2 to 40 mg of Ca and up to 84 mg of Fe. The prepared brown colored solution is alkalized with 1 n. NaOH solution (up to 10 ml)

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CZECHOSLOVAKIA/Analytic Chemistry. Analysis of Inorganic Substances.

E

Abs Jour: Ref Zhur-Khim., No 23, 77218.

until the color disappears, after which it is diluted with water to 100 ml, few drops of 0.1% aq. solution of III are added and the excess of II is titrated off with 0.05 M  $\text{CaCl}_2$  solution until a blue color appears. In the case of great amounts of Fe, the blue color of the solution disappears after 5 to 14 min., and it is necessary to resume titration in such a case until the blue color is restored (or to add about 0.2 g of KCN). That method is especially suitable for a rapid determination of Ca in calcium-silicon, which is conveyed into solution by fusing with a mixture of  $\text{Na}_2\text{CO}_3 + \text{KCO}_3$  (1:1)

Card : 3/4

VODARA J.

7

✓ Simultaneous Determination of Aluminum and Phosphorus  
in Ferro-Alloys. O. Bechtelovsk and J. Vodara. *Hutnická 176*  
Lhva, 1955, 10, (5), 293-294. [In Czech].

①  
Df  
SA

CZECH/34-59-1-9/28

AUTHORS: Ježek, Jaroslav, RNDr. and Vobořil, Josef, Ing.

TITLE: On the Secondary Hardness of High-Speed Steel  
(O sekundární tvrdosti rychlořezné oceli)

PERIODICAL: Hutnické Listy, 1959, Nr 1, pp 47-54 (Czechoslovakia)

ABSTRACT: Structural changes in high-speed steel during its treatment and in normal operation has a decisive influence on the performance and service life of the tool. Study of the pertaining phenomena is particularly important from the point of view of manufacturing cast high-speed steel tools, since such tools are not forged and the desired properties must be achieved by suitable choice of the composition and heat treatment. In order to gain information on the function of individual alloying elements and on the structural changes typical for this material, the authors studied (Ref 2) the formation of precipitates during tempering of the high-speed steel CSN 19 800 (0.82% C, 0.25% Mn, 3.90% Cr, 9.09% W, 1.85% V), particularly as regards the secondary hardness. To obtain information on the changes in the carbide phases, specimens which were quenched from 1240°C in oil were tempered for 2 x 1 hour at temperatures of 100 to 700°C.

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On the Secondary Hardness of High-Speed Steel

After the heat treatment the specimens were cut and one half of each was subjected to electrolytic isolation (Ref 12), whilst the second half was used for other tests. For studying the structural changes, electrolytic isolation and extraction-collodium replicas were used in addition to hardness tests. For analysing the structure of the basic substance and of the precipitates, optical and electron microscopic study as well as X-ray and electron structural analysis were used. Thus, from each specimen an optical structural exposure was made, an electron exposure of the extraction replica and of the isolated substance as well as an X-ray exposure of the isolated substance or the extracted replica and in some cases also an electron diffraction picture was taken of the precipitates on the replica. As check tests X-ray diffraction patterns were made of compact specimens which were etched electrolytically. The exhaustive studies of the changes occurring in this steel during tempering in the temperature range 100 to 700°C revealed that the secondary carbides separate out

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in the following order:  $\text{Fe}_4\text{W}_2\text{C}$ ,  $\text{W}_2\text{C}$ ,  $\text{Fe}_3\text{W}_3\text{C}$ , VC.

It was found that the carbide  $\text{W}_2\text{C}$  is present in the structure in the form of a morphologically distinct particle even at  $400^\circ\text{C}$  and, therefore,  $\text{W}_2\text{C}$  cannot possibly have a hardening effect on the basic martensite matrix in the range of secondary hardness. It was also found that the transformation of residual austenite into martensite and the beginning of precipitation of fibrous VC contribute to the secondary hardness; it is probable that these two phenomena follow each other and by applying a suitable technique it may be possible to distinguish one from the other. There are 7 figures, 1 table and 23 references, 7 of which are Czech, 10 English, 3 Soviet and 3 German.

ASSOCIATION: Státní výzkumný ústav materiálu a technologie, Praha  
(State Research Institute for Materials and Technology,  
Prague)

SUBMITTED: May 30, 1958

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V. B. Ř. L. J.

CZECH/34-59-4-7/18

AUTHORS: Přenosil, B., Candidate of Technical Sciences, Ing.  
and Vobořil, J., Ing.

TITLE: Methods of Metallographic Investigation of the Structure  
of Uranium (Metody metalografického vyšetřování struktury  
uranu)

PERIODICAL: Hutnické Listy, 1959, Nr 4, pp 309 - 315  
(Czechoslovakia)

ABSTRACT: In the first part of the paper literary data, mainly  
Western, are reviewed. In subsequent paragraphs, the  
authors deal with grinding, electrolytic polishing  
(carried out on uranium specimens of which the origin  
and the method of processing have not been specified),  
observation of the structure in polarised light and  
etching of uranium. In Table 1, the compositions, the  
polishing time and the optimum current densities are  
entered for the electrolytic polishing and, in a plate,  
microphotographs with magnifications of up to 1 000 times  
are given of the uranium in the electrolytically polished  
state after various heat-treatment procedures. In Tables  
2 and 3, the data relating to etching and etching  
electrolytes are given. It is concluded that in ✓

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metallographic investigation of the structure of the uranium, the critical operations are the electrolytic polishing and etching. Emphasis must be placed on obtaining a perfectly planar surface, conservation to a maximum extent of the carbides and inclusions and suitability of the polished surface for observation under polarised light and also for subsequent electrolytic etching. The authors tested a number of electrolytes and various current densities in order to determine optimum values. According to the experiments, the most suitable electrolyte for polishing consists of 5 parts  $H_3PO_4$ , 5 parts of glycerin and 8 parts of ethylalcohol. The best contrast was obtained by using etching electrolytes of one of the following two compositions: 25 g  $CrO_3$ , 30  $cm^3$   $H_2O$ , 300  $cm^3$   $CH_3COOH$  or 50 g  $CrO_3$ , 60  $cm^3$   $H_2O$  and 180  $cm^3$   $CH_3COOH$ . Heat treatment considerably affects the process of etching; in the case of uranium, etched after cooling rapidly from the  $\beta$  and  $\gamma$  ranges,

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somewhat better results were obtained with the second mentioned electrolyte.

There are 14 figures, 3 tables and 12 references, 8 of which are English, 1 French and 3 Czech.

ASSOCIATION: SVÚMT, Prague

SUBMITTED: August 11, 1958 ✓

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CZECH/34-59-9-7/22

AUTHORS: Ježek, Jaroslav, Doctor of Natural Sciences,  
Vobořil, Josef, Engineer, Číhal, Vladimír, Engineer,  
Candidate of Technical Sciences

TITLE: Nature of the Phases Occurring in the Structure of  
Brittle Transformer Sheet

PERIODICAL: Hutnické listy, 1959, Nr 9, pp 777-786

ABSTRACT: A comprehensive study of the changes in transformer sheet (4.34% Si, 0.02% C, 0.01% N) based on hardness measurements, thermal analysis, study by optical and electron microscopes, X-ray and electron structure analysis as well as the results of thermo-chemical analysis has shown that nitrogen is the active substance which brings about formation of brittle phases in the basic substance and at the boundary of the ferritic grains. Up to about 250°C it precipitates from the  $\alpha$  solid solution in the form of the nitrides  $\text{Fe}_{16}\text{N}_2$ - $\text{Fe}_4\text{N}$  which are embedded in the basic substance. A considerably more dangerous form of separation of a secondary phase caused by nitrogen occurs in the temperature range 250 to 700°C when the nitrides are dissolved again and diffuse, together with silicon, to the boundaries

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of the ferritic grains, forming there coherent bands of precipitates consisting of  $\text{Si}_3\text{N}_4$ . After annealing at  $700^\circ\text{C}$  a compact phase will exist at the grain boundaries, the main composition of which is the nitride  $\text{Si}_3\text{N}_4$ . By annealing at a higher temperature this phase can be made to dissolve again in the basic substance, as a result of which the excessive brittleness of the sheet will be eliminated. On the basis of the obtained results, the following conclusions are drawn relating to the manufacture of transformer sheet: nitrogen present in transformer steel brings about the formation of nitride phases which cause inadmissible brittleness of sheet produced from such steel; such phases can be made to dissolve in the basic ferritic structure by annealing at a temperature above  $800^\circ\text{C}$ , followed by rapid cooling ( $200^\circ\text{C}/\text{hour}$ ) and, by doing this, it is possible to prevent excessive brittleness of such sheets. Although by so doing it is possible to bring about dissolution of the nitride phases in the basic substance, in many cases such Card 2/3 a procedure would require special equipment, quite apart ✓

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Nature of the Phases Occurring in the Structure of Brittle Transformer Sheet

from the fact that dissolution of the nitride phases in the basic substance is not favourable from the point of view of the magnetic properties. Therefore, the aim should be to use such processes for manufacturing high grade transformer sheet which prevent the formation of higher nitrogen contents, i.e. in oxygen blast converters. It is possible that in the near future the use of vacuum furnaces with melting off electrodes will become an economic proposition. Acknowledgments are expressed to Engineer P. Schier, Metallurgical Institute, CSAV, for making an electron microscope available, to J. Sevciková for her assistance in carrying out the here described work and to Engineer H. Tuma for carrying out the thermal analysis and to Srúta for careful execution of the experimental work relating to the X-ray structural analysis. There are 13 figures, 1 table and 41 references, 6 of which are Czech, 6 German, 26 English and 3 International.

ASSOCIATIONS: SVÚMT, Prague and SVÚOM, Prague

SUBMITTED: May 13, 1959

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VOBCRIL, J.; CIHAL, V.; JEZEK, J.

Substance of phases formed in the structure of brittle-transformer sheet metal.  
p. 777.

HUTNICKE LISTY. (Ministerstvo hutního průmyslu a rudných dolů a Československá  
vědecká technická společnost pro hutnictví a slevarenství) Brno, Czechoslovakia.  
Vol. 14, no. 9, Sept. 1959.

Monthly list of East European Accessions (EEAI) LC, vol. 9, no. 1, Jan. 1960.

Uncl.

S/123/62/000/020/002/007  
A006/A101

AUTHORS: Ježek, Jaroslav, Vobořil, Josef

TITLE: Structural changes in aging heat-resistant Ni-Cr-base alloys

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 20, 1962, 23, abstract 20B137 (Material. sb. 1960, Čast 2", Statní výzkumní ústav materiálu a technol. Praha, 1960, 71 - 94, Czech; summaries in Russian and English)

TEXT: To investigate structural changes occurring in the aging of "Nimonic" 80 and H 35 X15 (N35Kh15) type alloys, the authors used optical and electronic microscopes, X-ray, electron-graphical and differential-thermal analyses. The specimens were annealed at 1,050, 1,150, 1,200, 1,300°C for 2 hours, water-cooled and subjected to aging at 600, 650, 700, 750, 800, 850°C for 1 - 2,000 hours (and in some cases for 5,000 hours). It was found that annealing at 1,150°C caused full dissolving of all phases separated out, and of Cr carbide. Annealing at higher temperatures affects the nature of subsequent dispersion annealing and causes, in particular, early singling out of phases rich in titanium - TiC, ✓

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Structural changes in...

S/123/62/000/020/002/007  
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Ti(CN). In the process of dispersion annealing at 600 - 650°C chromium carbides ( $\text{Cr}_7\text{C}_3$ ) are singled out at the grain boundaries. At about 650°C dispersion annealing temperature, the singling-out of fibrous Ti carbides (carbonitrides) was observed in the grains as well as on the grain boundaries. At about 700°C annealing temperature and more a globular phase distinctly appears, whose amount and particle size increase with higher temperature. X-ray structural analysis shows that the particles represent a  $\gamma'$  phase composed of  $\text{Ni}_3(\text{Al}, \text{Ti})$  and a  $\eta$  phase of  $\text{Ni}_3\text{Ti}$  composition. At later stages of dispersion annealing, recrystallization takes place, whose product is a lamellar mixture of two equilibrium phases  $\gamma$  and  $\eta$ . At annealing temperature as high as about 200°C, a K-structure of an ordered solid solution is formed. In alloys with a high Al content,  $\text{NiAl}$ -,  $\sigma$ - and N-phases were observed, besides other phases.

S. Palestin

[Abstracter's note: Complete translation]

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Z/506/60/000/000/004/004  
1037/1237

AUTHOR: Vobořil, J., Engineer

TITLE: Methods of studying phase transformation of ansthenitic steels at low temperatures and under stresses

SOURCE: Prague. Statni vyzkumny ustav materialu a technologie. Materialovy sbornik, 1959. Prague, 1960, 201-236

TEXT: A method for microscopic investigation of metal structures and their transformations at various temperatures and under stresses is described. The instrument developed for this purpose contained the following components: 1. a microscope with a movie camera; 2. stressing arrangement (up to 300 kg/mm<sup>2</sup>) with measuring system; 3. cooling device (20°C → -190°C) regulated by evaporation of liquid nitrogen. The microscope used was "Zeiss - Epignost". It was installed on a rotating arm to enable observation of the same spot in course of stressing of the sample. To avoid obscuring of the picture by frost formation at low temperatures P<sub>2</sub>O<sub>5</sub> around the

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Z/506/60/000/000/004/004  
I037/I237

Methods of studying phase...

objective (instead of high vacuum) has been used. The stress arrangement was equipped with two tensiometers. The maximal stressing force was 3000 kg. The stress was determined with an accuracy of  $\pm 2\%$ .

Results: While at elevated temperatures, there is a decrease in rigidity and an increase in plasticity; at low temperatures the opposite phenomenon is observed. The basic structural change at low temperatures is the transformation of austenite to martensite. After quenching of steel at  $0^{\circ}\text{C}$ , residual austenites (up to 40%) which are frequently undesirable, are retained; as mentioned these can be transformed by lower temperatures. This transformation is enhanced by stress. The austenitic steel containing 18-25% Cr and 8-12% Ni is of special interest. It is austenitic after glowing at  $1000-1100^{\circ}\text{C}$  in phases  $\gamma$  and  $\gamma_2$  ( $\gamma$  is a non-equilibrium state). The non-magnetic  $\gamma$ - $\alpha_2$  quasimartensite transformation through the hexagonal phase has been studied. The microscopic studies of the

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Z/506/60/000/000/004/004  
1037/1237

# Methods of studying phase...

structure transformation on the electrolytically etched polished surface were done at temperatures up to  $-150^{\circ}\text{C}$ . The  $\alpha_2$  deformation occurs first on grains suitably orientated to form slidings or slip planes. Heating to  $500^{\circ}\text{C}$  or higher initiates the back transformation from the  $\alpha_2$  phase into the  $\alpha$  phase. There are 23 figures and 22 references. English language references include:  
Cina, B.: J. of Iron & Steel Inst. V 117 - (1954)  
Binder, W.D., Brown, C.M., Franke, R.: Trans. American Soc. for Metals V 41 - (1949)  
Baron, H.C.: Journ of Iron & Steel Inst. (1956)

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18 1151

AUTHORS:

TITLE:

PERIODICAL:

TEXT:

discussed in earlier work (Ref.1: J. Vodsed'álek and L. Čížek, Strojírenství 9 (1959) No.6, p.439), where it was stated that, due to its excellent anti-creep and relaxation properties, it is suitable for extensive use for machine parts operating at 650 to 675°C and up to 700°C for less mechanically stressed components. The development of this steel has reached a stage when it can be used for blades of steam turbines. Due to its exceptionally high resistance to relaxation, it is one of the best steels for bolts. In later work (Ref.2: L.Čížek: Candidate dissertation, SVÚMT, Prague and Ref.3: J. Vobořil: Candidate dissertation, SVÚMT, Prague) Card 1/10

24647  
Z/034/61/000/009/001/002  
E073/E535

Čížek, Lubomír, Candidate of Science Engineer,  
Ježek, Jaroslav, Doctor of Natural Sciences and  
Vobořil, Josef, Engineer  
Influence of structural changes on the mechanical  
properties of hardenable creep resisting  
35Ni-15Cr-3W-Ti,Al steel  
Hutnické listy, 1961, No.9, pp.637-645

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Influence of structural changes ...

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attention was paid to structural changes which occur in this material during heat treatment and in operation. The composition of the steel is 35% Ni, 15% Cr and 3% W; hardenability is achieved by adding about 1.5% Ti and also Al. Equilibrium diagrams for this type of steel are not available. The structural conditions in this steel can be judged only on the basis of simplified ternary diagrams Ni-Cr-Ti, Ni-Cr-Al, Ni-Ti-Al and pseudo-ternary diagrams Ni-Cr-Ti-Al plotted by Taylor and Floyd for Nimonic type alloys. The steel under consideration differs from these alloys inasmuch as a part of the chromium and a larger part of the nickel is substituted by iron with a small quantity of W. It could be anticipated that for the steel AKRN the structural relations are similar to those pertaining to Ni-Cr-Ti-Al Nimonic type alloys. This means that, in addition to the  $\gamma$ -solid solution matrix, the phase  $\gamma'$  with the basic composition  $\text{Ni}_3\text{Al}$  with a face-centered cubic lattice may be present, the parameter of which differs only slightly from that of the  $\gamma$ -solid solution. This phase is capable of dissolving titanium and about 3/5ths of the Al atoms can be substituted by Ti atoms. This substitution increases the

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Influence of structural changes ...

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shows the strength and yield point of a heat with 2.15% Ti ( $\sigma_{kt}$ ,  $\sigma_{pt}$ , kg/mm<sup>2</sup> vs. annealing time, hours; solution annealing same as in previous figures). It can be seen that as a result of the precipitation hardening the hardness increases from 62 to 108 kg/mm<sup>2</sup> and the yield point from 25 to 70 kg/mm<sup>2</sup>. The maxima roughly correspond to the maxima of the hardness curves. The elongation and contraction decrease in accordance with increasing strength. Over-ageing, which occurs after 100 hours at 700°C, is characterized by the yield point not decreasing further and the contraction increasing. The position is similar for ageing at 800°C. The impact strength decreases at all temperatures from the very beginning of the precipitation annealing and its initial decrease will be the higher the higher the annealing temperature. This decrease shows that there are local reactions at the grain boundaries. Detailed information is given on the structural changes after precipitation hardening. The individual phases were investigated by X-ray analysis using monochromatic CrK $\alpha$  radiation. Analysis of the finest phases were made with electron diffraction methods on particles caught on the extraction replicas.

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